

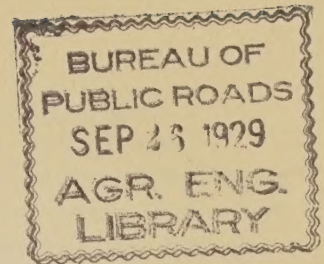
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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCrory, Chief

MONTHLY NEWS LETTER



WASHINGTON, D. C., August 20, 1929.

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: IN ALL CASES OF PROPERTY TRANSFERS IN THE :
: FIELD, TRANSFER FORM No. 146 MUST INVARIABLY BE :
: EXECUTED AND A COPY SENT TO THE WASHINGTON OFFICE. :
: EMPLOYEES WILL BE HELD PERSONALLY RESPONSIBLE :
: FOR ALL ITEMS SHOWN ON THEIR LAST ANNUAL INVENTORY :
: EXCEPT SUCH AS ARE SHOWN TO HAVE BEEN TRANSFERRED: :
: BY COPIES OF TRANSFER PAPERS SENT TO THIS OFFICE.: :
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: THE JULY NEWS LETTER IN ANNOUNCING THE :
: APPOINTMENT OF PROFESSOR HENRY GIESE, STATED :
: THAT HE WAS FROM "OHIO STATE COLLEGE". THIS WAS, :
: OF COURSE, IN ERROR AS HE COMES TO US FROM THE :
: DEPARTMENT OF AGRICULTURAL ENGINEERING, IOWA :
: STATE COLLEGE. :
:.....

DURING THE EARLY PART OF AUGUST MR. MCCRORY WENT TO OSHKOSH, WISCONSIN, FOR THE PURPOSE OF MAKING A PERSONAL EXAMINATION OF THE CONDITIONS IN THE WOLF RIVER TERRITORY. THIS IS A COMPLICATED PROBLEM HAVING ELEMENTS OF BOTH FLOOD CONTROL AND POWER UTILIZATION WHICH INTERESTS CONFLICT TO A CERTAIN EXTENT. THE LANDOWNERS ARE VERY ANXIOUS TO ARRIVE AT A SOLUTION OF THE PROBLEM, SATISFACTORY TO BOTH INTERESTS.

FROM OSHKOSH MR. MCCRORY PROCEEDED TO MILWAUKEE AND MADISON, WISC., FOR THE PURPOSE OF SECURING FURTHER DATA IN REFERENCE TO WOLF RIVER. HE THEN VISITED D. L. YARNELL AT IOWA CITY AND INSPECTED THE HYDRAULIC WORK IN PROGRESS THERE; FROM IOWA CITY MR. MCCRORY WENT TO ST. PAUL FOR A CONFERENCE WITH D. G. MILLER AND N. A. KESSLER, AND THENCE TO WASHINGTON.

D. L. YARNELL HAS SUBMITTED HIS REPORT ON THE STUDY OF THE PROPOSED CUT-OFFS OF THE DES MOINES RIVER AT OTTUMWA, IOWA, WHICH STUDY WAS MADE BY THE USE OF A MODEL BASED ON A TOPOGRAPHIC SURVEY MADE BY THE CORPS OF ENGINEERS AND CONSTRUCTED TO A HORIZONTAL SCALE OF 800:1 AND A VERTICAL SCALE OF 100:1. WATER WAS ALLOWED TO FLOW OVER THE MODEL IN SUCH A MANNER AS TO SIMULATE EXACTLY FOUR DIFFERENT FLOOD STAGES. THE TESTS WERE MADE AS TO THE RIVER IN ITS PRESENT CONDITION, AND AS TO

VARIOUS CONDITIONS INVOLVING TWO PROPOSED CUT-OFFS AND SOME CHANGES IN THE PRESENT CHANNEL WIDTH BETWEEN THEM. AS A RESULT OF THE STUDY IT WAS CONCLUDED THAT WITH THREE IMPROVEMENTS A FLOOD STAGE SIMILAR TO THAT OF 1903 (100,000 SECOND FEET) COULD BE HANDLED WITH STAGES FROM 1 TO 3.3 FEET LOWER THAN THOSE OCCURRING IN 1903. THE THREE IMPROVEMENTS ARE AS FOLLOWS: 1. CONSTRUCT ACROSS THE UPPER BEND A FLOODWAY NOT TO EXCEED 400 FEET IN WIDTH. 2. CONSTRUCT ACROSS THE LOWER BEND A FLOODWAY NOT TO EXCEED 400 FEET IN WIDTH. 3. ENLARGE THE CHANNEL BY EXCAVATING ON THE SOUTH BANK BETWEEN MARKET STREET AND THE ENTRANCE TO THE LOWER CUT-OFF SO THAT THE CHANNEL AND ALL BRIDGE OPENINGS ARE 150 TO 200 FEET WIDER THAN AT PRESENT.

MR. YARNELL REPORTS THAT THE SUCCESS IN SIMULATING NATURAL FLOOD CONDITIONS AT VARIOUS POINTS ALONG THE 9 MILE STRETCH OF RIVER INVOLVED, WAS MOST GRATIFYING. ALTHOUGH SUCH STUDIES HAVE HERETOFORE BEEN MADE IN EUROPE THIS IS PROBABLY THE FIRST ATTEMPT IN THE UNITED STATES TO DETERMINE IN ADVANCE, BY THE MEANS OF MODELS, THE BENEFITS TO BE DERIVED FROM STRAIGHTENING RIVERS.

L. A. JONES LEFT WASHINGTON AUGUST 18, IN COMPANY WITH H. H. BENNETT OF THE BUREAU OF CHEMISTRY AND SOILS, TO EXAMINE THE POSSIBLE SITES FOR ESTABLISHING SOIL EROSION EXPERIMENTAL FARMS IN IOWA, WISCONSIN AND MINNESOTA. THIS TRIP IS EXPECTED TO OCCUPY MR. JONES UNTIL ABOUT SEPTEMBER 15.

W. M. HURST AND W. R. HUMPHRIES ARE ENGAGED IN A CONTINUATION OF THE STUDY OF COMBINE HARVESTERS, PARTICULARLY THE FACTORS OF GRAIN DRYING AND WINDROW HARVESTING. MESSRS. HURST AND HUMPHRIES PROBABLY WILL BE IN NORTH DAKOTA ON THIS WORK THROUGH SEPTEMBER.

M. A. R. KELLEY IS MAKING A TRIP THAT WILL EXTEND THROUGH SEVERAL WEEKS, IN THE MIDDLE WEST, SECURING DATA FOR PREPARING A FARMERS' BULLETIN ON GRAIN STORAGES. THE STORING OF GRAIN BY THE INDIVIDUAL FARMER IS A SUBJECT THAT HAS RECENTLY BEEN GIVEN MUCH PROMINENCE.

THE FIRST MEETING OF THE ADVISORY COUNCIL SET UP IN CONNECTION WITH THE FARM STRUCTURES RESEARCH PROJECT WILL BE HELD IN WASHINGTON AUGUST 27. THE SECRETARY OF AGRICULTURE INVITED SOME 10 OR 12 TRADE ASSOCIATIONS, AND ORGANIZATIONS REPRESENTING THE FARMING INDUSTRY TO CO-OPERATE IN THIS STUDY AND TO NOMINATE REPRESENTATIVES TO SERVE ON THIS COUNCIL. ON AUGUST 27 THE COUNCIL IS TO MEET PROFESSOR GIESE, DIRECTOR OF THE SURVEY, IN WASHINGTON, TO OUTLINE A PROGRAM FOR THE CONDUCT OF THIS PROJECT.

THOSE FAMILIAR WITH THE LAYOUT OF THE WASHINGTON OFFICE WILL BE INTERESTED IN THE REARRANGEMENT THAT HAS RECENTLY BEEN MADE LARGELY AS A RESULT OF THE PARTIAL REORGANIZATION ANNOUNCED AT THE FIRST OF AUGUST. MR. MCGRORY HEREAFTER WILL OCCUPY THE LARGE ROOM FORMERLY OCCUPIED BY MR. BARROWS AND MR. JONES. THIS ROOM WILL BE MUCH MORE SUITABLE FOR CONFERENCES THAN THE SMALL ROOM HERETOFORE OCCUPIED BY HIM, IN WHICH MR. BARROWS IS NOW ESTABLISHED. MR. HURST HAS BEEN MOVED TO THE LARGE BACK ROOM, TOP FLOOR, 1420 PENNSYLVANIA AVENUE. MR. SENNER NOW OCCUPIES THE ROOM HERETOFORE OCCUPIED BY MR. HURST. MESSRS. WARREN AND KELLEY HAVE SUCCEEDED MR. SENNER IN THE OCCUPANCY OF HIS FORMER ROOM. MRS. TRESGOT IS NOW ESTABLISHED IN THE FORMER WARREN-KELLEY ROOM. MRS. SHEEHAN

HAS MOVED BACK WITH T.A.H. MILLER, AND L.A. JONES IN CHARGE OF EROSION HAS HIS OFFICE IN THE ROOM FORMERLY OCCUPIED BY MRS. TRESKOT AND MRS. SHEEHAN. JOHN BEETON WHO HANDLES REQUISITIONS, VOUCHERS, AND PROPERTY IS ESTABLISHED IN THE SMALL ROOM AT THE REAR OF 1418 PENNSYLVANIA AVENUE. FURTHER SHIFTING OF OFFICE SPACE WILL OCCUR AS CONDITIONS SEEM TO WARRANT.

H. C. MAUER, JR. AGRICULTURAL ENGINEER, HAS BEEN ASSIGNED TO HEAD-QUARTERS AT BELTSVILLE, MD., WHERE HE IS DEVOTING PRACTICALLY ALL HIS TIME TO SERVICE WORK IN CONNECTION WITH VARIOUS PROJECTS COMING UP ON THE FARM.

INTERESTING LETTERS ARE BEING RECEIVED FROM G.A. MITCHELL WHO, AS REPORTED IN THE LAST ISSUE OF THE NEWS LETTER, IS AT PRESENT ON A EUROPEAN TRIP DURING WHICH TIME HE WILL TAKE EVERY OPPORTUNITY TO STUDY SEWAGE IRRIGATION AS PRACTICED ABROAD. THE DATA HE SECURES WILL BE OF VALUE IN CONNECTION WITH THE SEWAGE IRRIGATION PROJECT NOW UNDER WAY IN NEW JERSEY.

THE BERKELEY OFFICE IS IN RECEIPT OF A PRELIMINARY REPORT ON "THE LOSS OF WATER ALONG STREAM CHANNELS THROUGH EVAPORATION AND TRANSPIRATION AS INDICATED BY MEASUREMENTS ON TEMESCAL CREEK," BY H.F. BLANEY AND C.A. TAYLOR.

IN REFERENCE TO THE ABOVE MENTIONED REPORT, A RATHER UNIQUE OPPORTUNITY FOR MEASURING THE LOSS OF WATER BY EVAPORATION AND TRANSPIRATION FROM WILLOWS, TULE, AND KINDRED MOIST LAND GROWTH EXISTS ON TEMESCAL CREEK, FOUR MILES SOUTHEAST OF CORONA, CALIF. THERE ARE 12.80 ACRES OF MOIST LAND ON THE CANYON FLOOR SHARPLY OUTLINED BY A RAILROAD GRADE ALONG THE EAST SIDE AND A ROAD GRADE ALONG THE WEST SIDE. THE UPSTREAM END OF THE AREA IS MARKED BY AN OLD BROKEN ROCK DAM. WATER IS FORCED TO THE SURFACE BEHIND THIS DAM AND FLOWS THROUGH A GAP IN THE CENTER ON A VERY FLAT GRADE. 2,100 FEET DOWNSTREAM FROM THE DAM, THE OUTFLOW FROM THE AREA PASSES UNDER A BRIDGE AND IS AGAIN CONFINED TO A NARROW CHANNEL BY THE FILLS ON EACH SIDE OF THE BRIDGE.

THERE IS NO EVIDENCE OF ANY SEEPAGE INCREMENT OF WATER REACHING THE AREA STUDIED FROM THE ROCKY HILLS FLANKING IT ON EACH SIDE. THE WINTERS OF 1927-28 AND 1928-29 WERE SEASONS OF SCANT RAINFALL AND ALL GROWTH OUTSIDE OF THE MOIST AREA WAS DRY AND BROWN AT THE TIME OF THE TEST. EVEN THE SLIGHT DEPRESSIONS ALONG THE ROCKY HILLSIDES SHOWED NO EVIDENCE OF SUB-IRRIGATION.

THE REPORT CONTAINS AN AIRPLANE MAP OF THE AREA MADE IN JUNE OF THIS YEAR. THE MOIST AREA WAS OBTAINED FROM THIS MAP WITH A PLANIMETER AND FOUND TO COVER 12.80 ACRES.

THE METHOD ADOPTED FOR MEASURING THE RATE OF LOSS DUE TO THE MOIST LAND GROWTH WAS TO MEASURE THE INFLOW PAST THE DAM, THE OUTFLOW PAST THE BRIDGE, AND ESTABLISH THE LOSS DUE TO UNDERFLOW. THE REMAINING DIFFERENCE BETWEEN INFLOW AND OUTFLOW WAS THEN CHARGED TO EVAPORATION AND TRANSPIRATION LOSSES IN THE MOIST AREA.

IT HAD BEEN INTENDED TO RECORD WATER TABLE LEVELS AND OBTAIN ATMOSPHERIC AND PAN READINGS WITHIN THE AREA THIS SUMMER, BUT OWING TO THE DRYING UP OF THE CREEK EARLY IN THE YEAR, THIS PLAN HAD TO BE ABANDONED. IT WILL BE NECESSARY TO MAKE TESTS DURING ANOTHER SEASON BEFORE FINAL REPORT CAN BE PREPARED.

R. L. PARSHALL AND CARL ROHWER ARE WORKING ON THE DEVELOPMENT OF A PRACTICAL SAND AND SILT SAMPLER TO BE USED IN CONNECTION WITH THE IMPROVED VENTURI FLUME ON THE SOIL EROSION EXPERIMENTS. THEY HAVE DEVELOPED

AND TRIED OUT AT THE BELLVUE LABORATORY A NUMBER OF IDEAS, SOME OF WHICH GIVE PROMISE OF PROVING PRACTICABLE. AT THE PRESENT TIME THE MOST SATISFACTORY ARRANGEMENT CONSISTS OF TWO PLATES PLACED VERTICALLY IN THE THROAT SECTION, WHERE THE OUTER EDGE IS TURNED ON A RADIUS OF 16 INCHES. THE WIDTH OF OPENING AT THE CREST LINE IS ABOUT 0.01 FOOT, WHILE AT THE TOP OF THE ARC THE OPENING IS APPROXIMATELY 0.02 FOOT. SAMPLING OF THE WATER SHOWS THAT ABOUT 1.3 PER CENT OF THE FLOW CAN BE DIVERTED FOR ANY RATE OF DISCHARGE THROUGH THE FLUME. THEY HAVE NOT BEEN ABLE TO CONSISTENTLY SAMPLE SAND, BUT BELIEVE THAT THE ERRORS IN THE SAME SAMPLING ARE LARGELY DUE TO THE INABILITY OF PLACING THE SAMPLE WITHIN THE CONVERGING SECTION OF THE VENTURI FLUME. AFTER THIS TECHNIQUE HAS BEEN PERFECTED, IT IS THOUGHT THAT REPRESENTATIVE SAND AND SILT SAMPLES CAN BE OBTAINED.

ROBERT A. WORK HAS BEEN APPOINTED AS ASSISTANT IRRIGATION ENGINEER AND ASSIGNED TO A STUDY OF THE PRESENT AND PROSPECTIVE DRAINAGE PROBLEMS IN THE ROGUE RIVER VALLEY IN THE VICINITY OF MEDFORD, OREGON. A STUDY OF IRRIGATION PRACTICES WITH A VIEW TO PREVENTING UNNECESSARY WATER-LOGGING OF THE LAND AND IMPROVING CONDITIONS IN THE ORCHARDS IS PLANNED. THE WORK WILL BE UNDER THE SUPERVISION OF M. R. LEWIS. LOCAL PEOPLE ARE COOPERATING IN BEARING A PART OF THE EXPENSE OF THE INVESTIGATION.

W.W. McLAUGHLIN IS ON A SIX-WEEKS FIELD TRIP THROUGH OREGON, WASHINGTON, IDAHO, WYOMING, UTAH, AND NEVADA.

WELLS A. HUTCHINS IS ON A TRIP THROUGH NEVADA, UTAH, COLORADO, NEW MEXICO AND TEXAS, GATHERING DATA FOR A REVISION OF HIS BULLETIN ON "IRRIGATION DISTRICT OPERATION AND FINANCE."

F.C. SCOBEE MADE A SHORT TRIP THROUGH SOME OF THE SIERRA NEVADA MOUNTAIN REGIONS, GATHERING DATA FOR HIS BULLETIN ON "FLOW OF WATER IN CONCRETE FLUMES."

R.B. GRAY RETURNED JULY 31 FROM A TWO-DAY TRIP THROUGH SOME OF THE HEAVILY BORER INFESTED COUNTIES IN OHIO AND INCIDENTALLY VIEWED THE OPERATION OF A GRAIN WINDROWER AND COMBINE-HARVESTER WITH PICK-UP ATTACHMENT ON WHICH MEMBERS OF THE OHIO EXPERIMENT STATION WERE CONDUCTING TESTS.

WALLACE ASHBY MADE A THREE-DAY TRIP TO CHICAGO AND MOLINE, ILL., CONFERRING ON PROBLEMS OF PLOW DESIGN IN RELATION TO CORN BORER CONTROL, WITH REPRESENTATIVES OF THE INTERNATIONAL HARVESTER CO., JOHN DEERE PLOW CO., AND MOLINE PLOW CO. HE REPORTS A VERY CORDIAL RECEPTION AND MUCH INTEREST MANIFESTED IN THE PROBLEM OF CLEAN COVERAGE OF CORNSTALKS.

MR. McCORRY SPENT AUGUST 1 IN TOLEDO CONFERRING ON MATTERS PERTAINING TO CORN BORER CONTROL MACHINERY.

THE MANUSCRIPT PREPARED BY I.F. REED AND W.R. HUMPHRIES FOR A BULLETIN ON "THE OPERATION AND CARE OF THE HUSKER-SHREDDER" HAS BEEN SENT TO WASHINGTON.

IN COOPERATION WITH THE PLANT QUARANTINE CONTROL ADMINISTRATION, AN EXHIBIT OF CORN LOW-CUTTING MACHINERY FOR CORN BORER CONTROL-STALK SHAVER, BINDER WITH STATIONARY KNIFE LOW-CUTTING ATTACHMENT, AND HAND HOE, BEGAN SHOWING AT COUNTY FAIRS IN MICHIGAN, AUGUST 7. ANOTHER SIMILAR OUTFIT WILL BEGIN SHOWING IN OHIO AUGUST 20. REPORTS FROM THE FIRST OUTFIT INDICATE A LIVELY INTEREST MANIFESTED BY THE FARMERS IN THE MACHINERY WHICH WILL AID THEM IN COMBATING THE CORN BORER. THE COUNTY FAIR ASSOCIATIONS HAVE ENTHUSIASTICALLY WELCOMED THE SHOWING OF THESE EXHIBITS.

